RECEIVED
CENTRAL FAX CENTER
DEC 0 8 2006

REMARKS

This is a response to the final Office Action mailed September 12, 2006. When the Office Action was rendered, claims 20-39 were pending and claims 20-39 were rejected. Claims 1-19 were cancelled by a prior amendment. Claims 35-39 are hereby cancelled.

In the Office Action, the Examiner rejected claims 20-27, 35-37, and 39 under 35 U.S.C. 103 (a) as being unpatentable over Yang in view of McManamon; and rejected claims 28-39 under 35 U.S.C. (a) as being unpatentable over Sandler in view of McManamon.

Rejection of Claims 20-27, 35-37, and 39 Under 35 U.S.C. 103 (a)

In the rejection of claims 20-27, 35-37, and 39 under 35 U.S.C. (a), the Examiner stated that Yang discloses that "a large steering angle is defined by a position of the source element that was selected."

However, it is respectfully submitted that Yang simply fails to disclose that a large steering angle is defined by a position of the source element that was selected. Nowhere does Yang discuss the use of the selection of a particular fiber 14 in the array so as to define a large steering angle. Since patent drawings are not necessarily to scale, there is no way to determine from Figure 1 if selection of a source element will indeed determine a large steering angle, a small steering angle, or any steering angle whatsoever. If any steering is performed by the selection of a particular fiber, the amount of that steering is unknown.

More importantly, Yang does not even disclose the selection of source elements so as to facilitate steering. Rather than selecting a source element so as to provide steering, Yang connects particular source elements to particular destination elements. This is the very nature of an optical cross switch. That is, source elements are selected because they carry signals that need to be routed, not because they provide a desired steering angle.

LAW OFFICES OF
MACPHERSON KWOK CHEN & HEID LLP
2402 MICHELSON DRIVE
SUITE 210
IRVINE CA 92612
(949) 752-7040
FAX (408) 392-9262

More particularly, Yang only discusses steering via the use of mirror units 32 and 36. Yang states "each of the selected reflective elements (not shown) of the mirror units 32 and 36 is selectively positioned so that the input beams are redirected to an associated one of the output fiber ends 30" (col. 4, lines 15-8). Yang further elaborates on this use of mirror units 32 and 36 for steering at col. 4, lines 41-58. According to this explicit teaching of Yang, it appears that all of the steering is performed by these mirrors. **There is simply no teaching of any steering being done in any other manner (including by source element selection).**

Applicant believes that it is unlikely that Yang uses the selection of a fiber to effect steering. Yang is an optical cross switch. As mentioned above, a particular fiber (source element) to be steered (by mirrors 32 and 36) is selected based upon which signal needs to be routed, not based upon a desired steering angle to be achieve. Thus, fiber selection is constrained in a manner that inhibits the use of position selection as a means for large steering angle determination. As such, the goal of Yang device (signal switching) is actually antithetical to the use of position as a determinant of steering angle and Yang thereby inherently **teaches away** from such use.

It appears that Yang is incapable of defining a large steering angle by a position of the source element that was selected. Applicant believes that each source element is dedicated to a particular reflective element of the first mirror unit 32. Thus, the angle of the beam from each source element is fixed and cannot be steered. This is based upon Applicant's understanding of how such switches work. It is also based upon the statement that "each of the selected reflective elements (not shown) of the mirror units 32 and 36 is selectively positioned so that the input beams are redirected to an associated one of the output fiber ends 30" (col. 4, lines 15-8). Use of the terminology "an associated one" appears to indicate that each source element is associated with (fixedly aimed at) a particular and unchanging one of the reflective elements. Further support for this is provided by Figures 1, 2, 5, and 6, all of which show each source element being directed to a corresponding reflective element. Indeed, such association of each source element with a particular reflective element would seem to be necessary so that a plurality of source element can be active without interfering with one another. Thus,

LAW OFFICES OF
MACPHERSON KWOK CHEN & HEID LLP
2402 MICHELSON DRIVE
SUITE 210
IRVINE CA 92612
(949) 752-7040
FAX (408) 392-9262

Yang does not teach the selection of a particular fiber 14 in the array so as to define a large steering angle.

Lens 18 of the Yang device is referred to as a "collimating lens" (col. 3, line 65). The function of a collimating lens is to collimate light, not to re-direct the light through a large angle.

Further, light sources to be collimated are generally placed as close to the focal point of a collimating lens as possible. Thus, absent any teaching to the contrary, it is expected that the ends 14 of the fibers 12 of the Yang device will all be clustered as closely around the focal point of collimating lens 18 as possible. This, again, is antithetical to the use of position as a determinant of steering angle and thereby **teaches away** from such use.

Further, since the Yang optical cross switch is apparently for switching between groups of optical fibers, which are typically very small, the individual fibers of which can be closely spaced with respect to one another, and the two bundles of which can similarly be close to one another, there appears to be no need for the use of a large steering angle. In such applications, switching can readily be performed by redirecting beams through comparatively small angles.

As such, it is respectfully submitted that none of the cited references either disclose or make obvious the use of position of a source element to define a large steering angle, as recited in independent claims 20.

Rejected Claims 28-39 Under 35 U.S.C. (a)

In the rejection of claims 28- 39 under 35 U.S.C. (a), the Examiner appears to take the position that Sandler discloses "the output beam being directed toward one of the detector elements according to a large steering angle defined by an angle of the light received by the optics system."

However, there is simply no teaching in Sandler that the output beam is directed toward one of the detector elements according to a large steering angle defined by an

LAW OFFICES OF
MACPHERSON KWOK CHEN & HEID LLP
2402 MICHELSON DRIVE
SUITE 210
IRVINE CA 92612
(949) 752-7040
FAX (408) 392-9262

angle of the light received by the optics system. On the contrary, Sandler teaches that all of the steering is provided by first beam director 202 and second beam director 204 (at least Sandler does not disclose any other means for steering).

More particularly, paragraph [0034] of Sandler provides an illustration of switching according to the Sandler device. This paragraph explicitly states that "first beam direction element 208 on first substrate 202 directs the communication beam 115 and alignment beam 117 to second beam direction element 209 on second substrate 204 which in turn directs beams 115 and 117 to communications beam lenslet 311 and alignment lenslet, respectively." No mention is made of any other means for steering, particularly the use of a large steering angle as defined by an angle of light received by the optics system, as recited in claim 28. **There is simply no teaching of the use of position for large angle beam steering.**

As such, it is respectfully submitted that none of the cited references either disclose or make obvious the use of a large steering angle to direct a beam to a detector element, as recited in independent claim 28.

General Comments Regarding Both Rejections

In combining McManamon with either Yang or Sandler, the Examiner is taking the position that McManamon discloses small angle beam steering while Yang and Sandler disclose large angle steering. However, there does not appear to be any teaching in either Yang or Sandler that the steering angle provided thereby can be considered large. It is not even known whether the steering angles provided by Yang and Sandler are larger than those provided by McManamon.

Further, it is worthwhile to note that neither Yang nor Sandler disclose a small angle beam steerer, as recited in independent claims 20, and 28. The Examiner relies upon the teaching of McManamon to remedy this deficiency of Yang and Sandler. Yet, there is no reason for either Yang or Sandler to incorporate the optical phase array of McManamon. Such small angle beam steering is simply not required by either Yang or Sandler. The mirrors of these devices are adequate for providing the required steering.

LAW OFFICES OF
MACPHERSON KWOK CHEN &
HEID LLP
2402 MICHELSON DRIVE
SUITE 210
IRVINE CA 92612
(949) 752-7040
FAX (408) 392-9262

As such, there is no motivation for combine McManamon with either Yang or Sandler. Indeed, since they are clearly not needed, there appears to be a motivation not to combine McManamon with these references.

It is respectfully submitted that the dependent claims are independently patentable with respect to the independent claims. For example, dependent clam 24 recites the use of a wide angle lens as the optics system. The Examiner states that Yang discloses a collimator and that the use of a wide angle lens is therefor obvious. However, the claimed wide angle lens is not used to merely collimate. Rather, it is used to receive and/or transmit light over a large angular range, as claimed.

RECEIVED
CENTRAL FAX CENTER
DEC 0 8 2006

CONCLUSION

None of the cited references, taken either alone or in combination with one another, either disclose or make obvious "a large steering angle of the of the output beam being defined by a position of the source element that was selected" as recited in independent claim 20 or "the output beam being directed toward one of the detector elements according to a large steering angle defined by an angle of the received by the optics system" as recited by independent claim 28.

In view of the foregoing, it is respectfully submitted that claims 20-34 are in condition for immediate allowance. Reconsideration and an early allowance are therefor respectfully requested.

Certification of Facsimile Transmission
I hereby certify that this paper is being facsimile transmitted to the U.S. Patent and Trademark Office on the date shown below.

mm	December 8, 2006
Monique M. Butler	Date of Signature

Respectfully submitted,

Norman E. Carte
Attorney for Applicants
Reg. No. 30,455

LAW OFFICES OF
MACPHERSON KWOK CHEN & HEID LLP
2402 MICHELSON DRIVE
SUITE 210
IRVINE CA 92612
(949) 752-7040
FAX (408) 392-9262